Journal of Pharmacokinetics and Biopharmaceutics

Vol. 25, No. 1 February 1997

CONTENTS

Modeling of Subcutaneous Absorption Kinetics of Infusion Solutions in the Elderly Using Technetium 1
Michael S. Roberts, Stanley Lipschitz, A. John Campbell, Sompon Wanwimolruk, E. Garth McQueen, and Malcolm McQueen

Pharmacokinetic–Pharmacodynamic Modeling of Doxacurium: Effect of Input Rate 23
Yali Zhu, Gérald Audibert, François Donati, and France Varin

The Impact of Arteriovenous Concentration Differences on Pharmacodynamic Parameter Estimates 39
B. Tuk, M. Danhof, and J. W. Mandema

Serum Protein Binding of Nonsteroidal Antiinflammatory Drugs: A Comparative Study 63
Olof Borgå and Birgitta Borgå

PHARMACOMETRICS

Modeling of Trough Plasma Bismuth Concentrations 79
J. E. Bennett, J. C. Wakefield, and L. F. Lacey

Mathematical Formalism for the Properties of Four Basic Models of Indirect Pharmacodynamic Responses 107
Wojciech Krzyzanski and William J. Jusko

Journal of Pharmacokinetics and Biopharmaceutics

Vol. 25, No. 2 April 1997

CONTENTS

Pharmacokinetic Analysis of Mizolastine in Healthy Young Volunteers After Single Oral and Intravenous Doses: Noncompartmental Approach and Compartmental Modeling 125
Florence Mensil, Catherine Dubruc, France Mentre, Sylvie Huet, Alain Mallet, and Jean-Paul Thenot

Mixed Effect Modeling of Sumatriptan Pharmacokinetics During Drug Development. I: Interspecies Allometric Scaling 149
Valérie F. Cosson, Eliane Fuseau, Constantin Efthymiopoulos, and Alan Bye

A Recirculatory Model of the Pulmonary Uptake and Pharmacokinetics of Lidocaine Based on Analysis of Arterial and Mixed Venous Data from Dogs 169
Tom C. Krejcie, Michael J. Avram, W. Brooks Gentry, Claus U. Niemann, Mary P. Janowski, and Thomas K. Henthorn

Pharmacokinetic-Based Minibolus Delivery as an Alternative to Continuous Infusion for Drugs that Exhibit a Biophase Lag 191
Steven E. Kern and Dwayne R. Westenskow

PHARMACOMETRICS

Bayesian Population Pharmacokinetic and Pharmacodynamic Analyses Using Mixture Models 209
Gary L. Rosner and Peter Müller

Bayesian Nonparametric Population Models: Formulation and Comparison with Likelihood Approaches 235
Jon Wakefield and Stephen Walker

COMMENTARY

Errors in Clearance Estimation After Bolus Injection and Arterial Sampling: Nonexistence of a Central Compartment 255
Michael Weiss

ANNOUNCEMENTS 261

Journal of Pharmacokinetics and Biopharmaceutics

Vol. 25, No. 3 **June 1997**

CONTENTS

Comparison of a Direct and Indirect Population Pharmacodynamic Model: Application to Recombinant Human Erythropoietin in Athletes 263
François Bressolle, Michel Audran, Raynald Gareau, Tuyet-Nga Pham, and Roberto Gomeni

Quantitative Structure-Pharmacokinetics Relationships. I. Development of a Whole Body Physiologically Based Model to Characterize Changes in Pharmacokinetics Across a Homologous Series of Barbiturates in the Rat 277
Graham E. Blakey, Ivan A. Nestorov, Philip A. Arundel, Leon J. Aarons, and Malcolm Rowland

New Mathematical Implementation of Generalized Pharmacodynamic Models: Method and Clinical Evaluation 313
Grazia Stagni, Alexander M. M. Shepherd, Yanjuan Liu, and William R. Gillespie

Bioavailability Assessment from Pharmacologic Data: Method and Clinical Evaluation 349
Grazia Stagni, Alexander M. M. Shepherd, Yanjuan Liu, and William R. Gillespie

On the Degree of Solute Mixing in Liver Models of Drug Elimination 363
Michael Weiss

ANNOUNCEMENTS 377

Journal of Pharmacokinetics and Biopharmaceutics

Vol. 25, No. 4 August 1997

CONTENTS

Editorial 381
Leslie Z. Benet

Resumé: Giorgio Segre 383

Remembering Giorgio Segre 385
Aldo Rescigno

A Physiologically Based Pharmacokinetic Model Incorporating Dispersion Principles to Describe Solute Distribution in the Perfused Rat Hindlimb Preparation 389
Ruth E. Oliver, Anne C. Heatherington, Alan F. Jones, and Malcolm Rowland

Physiologically Based Pharmacokinetic Modeling of a Homologous Series of Barbiturates in the Rat: A Sensitivity Analysis 413
Ivan A. Nestorov, Leon J. Aarons, and Malcolm Rowland

Organ Clearance Concepts: New Perspectives on Old Principles 449
Gina L. Sirianni and K. Sandy Pang

COMMENTARY

Similarity or Discrepancy in Pharmacokinetic Parameter Estimation Between Bolus and Infusion Studies 471
Win L. Chiou, Sang M. Chung, and Gabriel Robbie

Metabolite Mean Transit Times in the Liver as Predicted by Various Models Hepatic Elimination 477
George D. Mellick, Yuri G. Anissimov, Anthony J. Bracken, and Michael S. Roberts

Sample Size Determination for Repeated Measurements in Bioequivalence Test 507
Kung-Jong Lui

PHARMACOMETRICS

Comparison of ED, EID, and API Criteria for the Robust Optimization of Sampling Times in Pharmacokinetics 515
Michel Tod and Jean-Marie Rocchisani

Journal of Pharmacokinetics and Biopharmaceutics

Vol. 25, No. 5 October 1997

CONTENTS

Construction of a Whole Body Blood Flow Model for Use in Positron Emission Tomography Imaging with [^{15}O]Water 539
Shalini Narayana, Richard D. Hichwa, Laura L. Boles Ponto, Richard R. Hurtig, and G. Leonard Watkins

A Tracer Interaction Method for Nonlinear Pharmacokinetics Analysis: Application to Evaluation of Nonlinear Elimination 569
P. Veng-Pederson, J. A. Widness, J. Wang, and R. L. Schmidt

A Parametric Confidence Interval for a Moment-Based Scaled Criterion for Individual Bioequivalence 595
Ebi K. Kimanani and Diane Potvin

A Semiparametric Method for Describing Noisy Population Pharmacokinetic Data 615
Kyungsoo Park, Davide Verotta, Terrence F. Blaschke, and Lewis B. Sheiner

ANNOUNCEMENTS 643

Journal of Pharmacokinetics and Biopharmaceutics

Vol. 25, No. 6 December 1997

CONTENTS

ANNOUNCEMENT 645

Antiprogestin Pharmacodynamics, Pharmacokinetics, and Metabolism: Implications for Their Long-Term Use 647
Graham R. Jang and Leslie Z. Benet

Physiological Indirect Effect Modeling of the Antilipolytic Effects of Adenosine A_1-Receptor Agonists 673
Erno A. van Schaick, Henrik J. M. M. de Greef, Adriaan P. Ijzerman and Meindert Danhof

Implementation and Evaluation of a Stochastic Control Strategy for Individualizing Teicoplanin Dosage Regimen 695
Michel Tod, Patrice Alet, Olivier Lortholary, and Olivier Petitjean

A Pharmacokinetic–Pharmacodynamic Model of Chemotherapy of Human Immunodeficiency Virus Infection that Relates Development of Drug Resistance to Treatment Intensity 713
Robert C. Jackson

Membrane Transporters in Drug Disposition 731
Kathleen M. Giacomini

Bioequivalence: Issues and Options 743
Kamal K. Midha, Maureen J. Rawson, and John W. Hubbard

A Note on Sample Size Determination for Bioequivalence Studies with Higher-Order Crossover Designs 753
Keh-Wei Chen, Shein-Chung Chow, and Gang Li